

AD-A104 459

NAVAL HEALTH RESEARCH CENTER SAN DIEGO CA
UTILIZATION, HEALTH AND PERFORMANCE OF ENLISTED NAVY WOMEN. (U)
FEB 78 A HOIBERG
NAVHLTHRSCHC-78-7

F/6 6/5

NL

UNCLASSIFIED

1 OF 1
AD-A
104-459

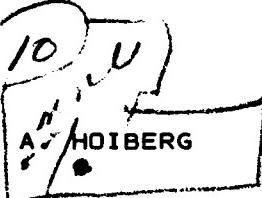
END
DATE
FILED
10-81
DTIC

AD A104459

LEVELY

2
BS

UTILIZATION, HEALTH AND PERFORMANCE OF ENLISTED NAVY WOMEN.



11 Feb 78

12 129

REPORT NO. 78-7

14 NHVTH17THRdCHC -

16 F51524

17 ZF51524422

9 Interior kept.

DISTRIBUTION STATEMENT A
Approved for public release;
Distribution Unlimited



FILE COPY

DTIC

NAVAL HEALTH RESEARCH CENTER

P. O. BOX 85122
SAN DIEGO, CALIFORNIA 92138

NAVAL MEDICAL RESEARCH AND DEVELOPMENT COMMAND
BETHESDA, MARYLAND

391642
81 9 21 085

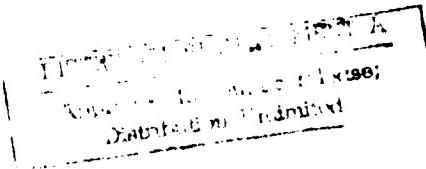
**Utilization, Health and Performance
of Enlisted Navy Women***

Anne Hoiberg**

**Naval Health Research Center
P.O. Box 85122
San Diego, CA 92138**

* Report No. 78-7, supported by Naval Medical Research and Development Command, Department of the Navy, under research Work Unit ZF51.524.022-0001. The views presented in this paper are those of the author. No endorsement by the Department of the Navy has been given or should be inferred.

** Head, Health Care Systems Branch, Environmental and Social Medicine Division.

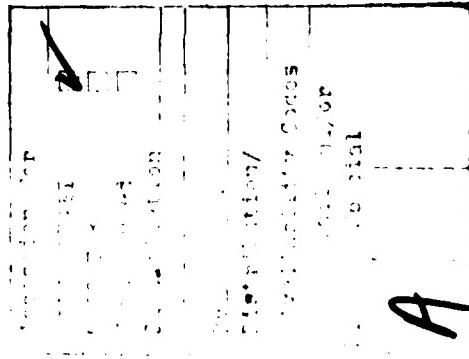


Utilization, Health and Performance
of Enlisted Navy Women

Anne Hoiberg*

Research at the Naval Health Research Center, San Diego, during the past two decades has been conducted on the adjustment, performance, and health patterns of enlisted naval personnel. Investigators have studied the effects upon health and performance of shipboard habitability, isolated environments such as Antarctica, sleep deprivation, physical conditioning, job stress, family problems, organizational conditions, and prisoner-of-war experiences. The evaluation of BuMed-sponsored programs such as weight reduction also is part of the Center's mission.

One facet of these programs is the study of the health and performance effectiveness of enlisted Navy women. The present paper, which describes the results of previous and ongoing research, is divided into the following areas: Reasons for attrition of men and women who enlisted during the 1972 and 1975 time period; performance and attitudes of a sample of active duty Navy men and women; hospitalization rates for enlisted personnel from 1966 to 1976; comparisons of hospitalization rates by sex, pay grade, and occupation for 1973 to 1975, and numbers of days hospitalized for all illnesses and accidents during 1975 and 1976.



Data for this research were obtained from service history and hospitalization files maintained at the Center. Information on the service histories of enlisted personnel were extracted from Bureau of Naval Personnel loss and gain tapes made available to the Center by the Naval Personnel Research and Development Center. Every enlisted individual who served in the Navy during 1965 through 1977 has a record of important career changes that occurred while serving on active duty. Such information includes promotions, demotions, desertions, unauthorized absences, change in marital status and number of dependents, duty assignments, time on active duty, occupational status, and reason for separation. Similarly, the Center maintains historical records on hospitalizations for all active duty enlisted naval personnel and officers admitted to naval medical facilities dating back to 1965. These records were created from hospitalization data collected by the Naval Medical Data Services Center in Bethesda, Maryland. Thus, the Center has the capability of providing longitudinal information on the performance, career status, and hospitalizations of Navy enlistees serving on active duty for any period of time from 1965 to the present.

Attrition of Enlisted Navy Men and Women

Since 1973 and the implementation of the all-volunteer force, all branches of the military have been concerned with monitoring the attrition rates of enlisted men and women. Prior to the end of conscription, military manpower planners were in the enviable position of having sufficient numbers of qualified men to meet their needs. With the end of the post-war baby boom, however,

the importance of effective recruiting procedures and quality control techniques became readily apparent in an effort to enlist as many high quality individuals as possible. Also of concern was the performance of women who began to enter the military in increasing numbers after 1972. Table 1 is a presentation of attrition rates in percentages for men who enlisted during 1972 through 1975. Similarly, Table 2 presents the attrition percentages for women by pay entry base year 1972 through 1975. These data represent all separations that occurred between 1972 and January 1977.

In studying these tables, it is possible to identify those occupational categories with the highest attrition rates. For men, the highest rates occurred among individuals in the nonrated group followed by Engineering and Hull, Radioman, and Deck groups. The highest rates for women, across the same years, also were obtained for the nonrated groups; the second highest rates varied across years and included Communications, Clerical, and the nontraditional groups. The gradual decrease in attrition rates for women no doubt reflects to a small extent a 1975 policy change whereby women can remain in the Navy during pregnancy and after childbirth. Of all separations, the percentages for such reasons as Convenience of the Government, which includes discharges associated with pregnancy and parenthood, accounted for 41 percent of the 1972 cohort, 39 percent for 1973, 45 percent for 1974, and 28 percent for 1975. For men within all specialties, the highest percentages of premature attrition occurred for reasons of unsuitability. Such findings point to the importance of implementing more effective selection procedures for men and perhaps being more aware of the risks of pregnancy in first-enlistment women.

Performance and Attitudes by Occupation and Sex

In a longitudinal study conducted on the performance and attitudes of enlisted Navy men (n = 2,987) and women (n = 340), comparisons were made on performance indices during Navy "A" school and after two years in the fleet. Participants were assigned to one of five schools between 1973 and 1974 which included: Data Processor, Mess Management Specialist, Personnelman, Radioman, and Yeoman. These students completed a background information form, the Comrey Personality Scales, and two versions of the Navy Environment Scale (the Actual and Ideal forms). After a follow-up period of at least one year, the latter two questionnaires, reflecting the enlistee's actual and ideal judgments of his current duty station, were mailed to and completed by those individuals listed as being on active duty.

Several two-way analyses of variance were performed and revealed that men and women perceived their Navy schools quite similarly on 10 social climate dimensions. Significant differences¹ across schools, however, were noted and indicated that students assigned to schools with high disenrollment rates also evaluated their schools the least favorably. For comparisons of biographical data, women tended to be older and were less likely to have been arrested or to have experienced an expulsion or suspension from high school. Significant differences in educational attainment were obtained on t-tests for only the Radioman and Mess Management Specialist occupations; nearly all women had entered the Navy with a high school diploma which was not true for men in these two occupations. Table 3 is a presentation of these means as well as percentages of school completion and two-year effectiveness/survival. As can be seen in this illustration, higher percentages of school graduates (except for Data Processor) and two-year survivors were obtained for women than men.

¹ Significant differences refer to $p < .05$ or better unless otherwise stated.

Men and women also had similar mean Basic Test Battery scores, except that female Mess Management Specialists had a significantly higher mean score on the General Classification Test. On the personality scales, women had significantly higher means than men across the five occupations for Trust vs. Defensiveness, Social Conformity vs. Rebelliousness, and Empathy vs. Egocentrism. When the means for men and women were compared on Orderliness vs. Lack of Compulsion, Extraversion vs. Introversion, Emotional Stability vs. Neuroticism, and Activity vs. Lack of Energy, only the Activity vs. Lack of Energy showed a significant difference and this occurred for the Yeoman specialty. Comparisons (one-way analyses of variance and Scheffe' t tests) on the one-year follow-up measures indicated that men and women assigned to shore duty perceived their environmental conditions similarly. Men assigned to sea duty, on the other hand, had significantly less favorable perceptions ($p < .01$) than shore-assigned men and women on measures of Work Pressure and Control, thereby indicating that these men felt there was too much emphasis on pressure and control aboard ship.

Of all variables studied, the largest significant correlation coefficients ($p < .01$) with two-year effectiveness/survival were obtained for the following: expulsions (-.26), level of schooling (.24), arrests (-.17), Social Conformity vs. Rebelliousness (.14), and the General Classification Test (.14). Such results point up the importance of indicators of social responsibility, along with education and cognitive measures, as correlates of effective performance in the Navy. Several of these variables, furthermore, were found to be characteristics that distinguished women from men.

Hospitalization Rates for Enlisted Navy Men and Women--

1966 to 1976

Within the next five years, projections of manpower needs developed by the Department of Defense show that the percentage of women serving in the military could reach 11 percent of the total enlisted force. Further, with substantial increases evidenced in female enlistments during the past five years, several research projects have been funded which are designed to study the implications of additional increments in numbers of active duty women. Such projects have been concerned with comparisons between men and women on measures of attitudes, performance, and physical standards as well as rates of attrition and reenlistment.

Of equal importance is research conducted on the health care needs of military women since epidemiological literature indicates that civilian women have hospitalization rates two to three times higher than men. Thus, the extent of military readiness, which is the ultimate criterion, could be adversely affected if large numbers of women were hospitalized at any given time. During the past year, the Naval Health Research Center has been conducting studies on the health care needs of women in the Navy and the causes of hospitalization of enlisted men and women. Table 4 is a presentation of the rates for men and women by major diagnostic category across 11 years.

Trend analyses were conducted on these rates and indicated that significant decreases in women's rates across the past five years occurred for Infective and Parasitic Diseases, Diseases of the Respiratory System, and Symptoms

and Ill-Defined Conditions. Marked increases in rates from 1966 to 1975 were obtained for Pregnancy-Related Conditions and Special Conditions; the latter category includes admissions for prenatal care and surgical/medical aftercare. Because of the gradual increase in rates for pregnancy-related conditions since 1971, which clearly reflects a policy change whereby women can now opt to remain in the Navy during pregnancy and after childbirth, an upward gradient in admission rates for such conditions would be expected to continue. Hospitalization rates for the other major disease categories did not show consistent linear trends over the 11-year time period. Men's rates during the past few years seemed to be relatively stable with a significant decrease noted for Diseases of the Respiratory System. The increases in rates for Mental Disorders can be attributed to the Navy's policy of hospitalizing and rehabilitating individuals with alcohol problems.

In looking at women's hospitalization rates for specific non-infectious disorders, the highest rates during the past few years were noted for abortions, deliveries, diseases of the reproductive system, medical and surgical aftercare, symptoms referable to the abdomen and lower gastrointestinal tract, and neuroses. For men, the highest rates occurred because of fractures, open wounds, cellulitis, musculoskeletal conditions, personality disorders, and hernias. It should be pointed out that for the six leading reasons for hospitalization women's rates were considerably higher than men's rates. Women's rates for fractures and other accidents were slightly lower than those for men. Such results clearly support the findings reported in the literature in that men had somewhat higher rates for accidents and injuries whereas women during child-bearing years have substantially higher rates for reproduction-related conditions and Mental Disorders.

Hospitalization Rates by Sex, Pay Grade, and Occupation

Comparisons of hospitalization rates for men and women by occupation and pay grade have been conducted during the time period 1973 to 1975. Although these data were compiled for all diagnoses, for purposes of this paper only selected diagnoses that represented substantial numbers of days hospitalized will be presented in the tables. Such disorders include diagnoses considered as stress-related which comprise those listed under the category of Mental Disorders and symptoms referable to the abdomen and lower GI tract. Also to be discussed are pregnancy-related conditions and diagnoses associated with accidents and injuries.

During recruit training, the most frequently occurring reasons for being hospitalized included the same five conditions for both men and women: all pneumonias, acute upper respiratory infection, medical and surgical aftercare, cellulitis, and rubella. For three of these conditions, women's rates were substantially higher than those for men; men had the highest hospitalization rate for pneumonias which was higher than that for women. Only the rates for cellulitis were similar for men and women.

At the E-2 pay grade level, hospitalization rates were computed for the following four occupational groups: clerical/administrative and service specialties, Hospital Corpsman, nontraditional specialties (i.e., Operations Specialist, Machinist's Mate), and nonrated apprentices (Seaman, Airman, Fireman, and Constructionman). Occupations were excluded that had few or no women such as Boiler Technician and Gunner's Mate. Table 5 is a presentation of the hospitalization rates by sex and occupational grouping for selected diagnoses.

The highest hospitalization rates were obtained for both men and women assigned to the Hospital Corpsman specialty whereas the lowest rates were noted within the clerical/administrative category although women in this group had the highest rate of pregnancy-related diagnoses. Women performing jobs traditionally considered inappropriate for them had the lowest rates among the female groups for Mental Disorders. These women also had slightly higher rates than their male counterparts for accidents and injuries, a difference that could be attributed to women's inexperience with mechanical-type tasks. Although not all occupational groups had the same ordering of specific diagnoses, the highest rates for men were related to adjustment difficulties (personality disorders and drug-related problems) and to injuries such as fractures, strains (including sprains and dislocations), and concussions. For women, the highest rates were evidenced for abortions, infectious mononucleosis (not included in the table), symptoms referable to the abdomen and gastrointestinal tract, diarrheal disease (not included in the table), and personality disorders.

Similar to the E-2 comparisons, hospitalization rates for the majority of diagnostic categories at the E-3 pay grade level were the highest for the Hospital Corpsman specialty and lowest for men assigned to clerical and administrative jobs. Female Hospitalmen had considerably higher rates than women in the three other groups who tended to have fairly comparable rates. Comparisons also indicated that while women's rates within the three other groups were higher than their male counterparts, most women's rates within these three groups were lower than those for men assigned to the Hospital Corpsman specialty. Hospitalization rates for this pay grade by sex and occupation are

presented in Table 6. The five specific conditions with the highest rates for men were quite similar to those for the E-2 pay grade level except that alcoholism and hernias replaced drug-related problems and concussions. Women's rates were the highest for abortions, deliveries, abdominal symptoms, transient situational disturbance, and strains.

At the E-4 pay grade level hospitalization rates for men and women generally were less disparate than at lower pay grades. Table 7 is a presentation of rates: As can be seen in this table, injuries and alcoholism accounted for the highest hospitalization rates for men whereas women's rates were the highest for abortions, deliveries, prenatal care, abdominal symptoms, and strains.

Differences in rates between men and women declined for the final pay grade category in which pay grades E-5 through E-9 were combined because of the small numbers of women at these levels. Several rather dramatic changes were noted over other pay grades, such as decreases in rates for accidents and injuries as well as increases in men's rates for Diseases of the Circulatory System. Alcoholism became the leading reason for men's hospitalizations followed by fractures and strains. The highest hospitalization rates for women occurred for deliveries, abortions, and strains. When compared with other pay grade levels, rates for abortions and deliveries were considerably lower for this pay grade category: The highest rates of all diagnoses, however, were obtained for deliveries. Table 8 presents the hospitalization rates by sex and occupation for pay grades E-5 to E-9.

Such comparisons indicated that women's overall rates were higher than

men's for the majority of diagnoses, except accidents and injuries. When comparisons were made by occupation and pay grade, these differences declined and, for several cases, became negligible. Further, the large discrepancies evidenced at lower pay grades narrowed considerably at the higher levels. The decrease in rates for higher pay grades supports other researchers' findings in that younger people have more injuries, accidents, infectious diseases, and adjustment problems than others.

Individuals assigned to the Hospital Corpsman specialty had the highest hospitalization rates, especially the women, for nearly all diagnoses across pay grades and occupations. Men's rates for this occupation, when compared with women in other jobs such as the clerical/administrative group, were either comparable or higher for nearly all diagnoses with the exception of those related to the reproductive system. For example, hospitalization rates for Mental Disorders were higher for male medical specialists at all pay grades than women in the other groups. Such results cast some doubt on attributing differences in rates primarily to the sex of the individual and emphasize the importance of conducting comparisons across occupations. In an effort to identify the reasons for medical specialists' high rates, the Center is currently conducting studies on various causal factors of illness such as job stress, biology, environmental and experiential variables, psychosomatic influences, life style, and behavior of physicians and nurses.

In comparison with the three other groups, women assigned to nontraditional occupations did not have the highest hospitalization rates, as perhaps

would be hypothesized by proponents of the theory whereby sex role conflicts can adversely influence an individual's health. Overall, there was a tendency for these women to have fairly comparable rates with clerical personnel for Mental Disorders. Also of interest was the finding that these women had lower hospitalization rates than the other groups across nearly all pay grades for pregnancy-related conditions and genitourinary disorders. Their rates for accidents and injuries also were low in comparison with rates for most male and female groups. These results seem to suggest that women in the nontraditional specialties are adjusting more satisfactorily than had been expected by both skeptics and proponents alike.

Several differences between the sexes were noted for Mental Disorders such as a tendency for men in all occupations to have higher rates for schizophrenia, alcoholism, and drug-related problems. Women, on the other hand, had substantially higher rates for neuroses, particularly at the E-1 level where the rates per 100,000 were 2,032 for women and 398 for men, and for transient situational disturbance at the E-2 and E-3 pay grade levels. Hospitalization rates for all Mental Disorders, except for alcoholism, decreased across pay grades; those for alcoholism, however, increased considerably for men across pay grades and occupations. Another stress-related condition, symptoms referable to the abdomen and gastrointestinal tract, showed substantially higher rates for women than men at the lower pay grades within occupations. The large male/female discrepancies for Mental Disorders and abdominal symptoms seem to be associated with three explanatory models: stress, life style, and institutionalized sex role. For the stress hypothesis, several researchers

reported that the incidence of gastrointestinal disorders is related to psychosocial stress which results from significant changes in a person's life situation--such as adjusting to military life. High hospitalization rates also could be attributed to the life style hypothesis which states that women report more illness because it is culturally more acceptable for women than men to be ill. The institutionalized sex role framework suggests that women would be hospitalized more frequently than men because doctors may be more protective of women, more receptive to their complaints, and more willing to minister to their ills since women represent a small percentage of all active duty personnel.

Days Lost from Duty for Hospitalizations

Table 9 is a presentation of the numbers of days hospitalized for all reasons by sex during 1975 and 1976. As can be seen in this table, the total numbers of days hospitalized decreased for men and women from 1975 to 1976 and total hospitalizations increased. The category for men with the largest numbers of days lost was that of Accidents, Poisonings, and Violence; followed by Mental Disorders. For women, the most numbers of days lost because of hospitalizations occurred for pregnancy-related conditions and Mental Disorders. Specific disorders that showed declines were for abortions whereas increases in women's days lost were noted for deliveries. The overall total numbers of days hospitalized for pregnancy-related conditions did not change considerably from 1975 to 1976. Days hospitalized for alcoholics as well as other reasons decreased very substantially for men from 1975 to 1976.

Since pregnancy-related conditions have resulted in the highest hospitalization rates and days lost from duty for women, the determination of their subsequent performance after hospitalization would be useful to manpower planners who must fill training and duty assignments. For this reason, we also examined the separation data from 1973 to January 1977 of women who had been hospitalized for either an abortion or childbirth during 1973 through 1975. Table 10 presents the numbers of women admitted for an abortion ($n = 970$) or childbirth ($n = 489$) and the percentages of these totals that were separated from the Navy. While the most frequent reason for being separated occurred because of pregnancy or parenthood for both subgroups, the percentages showed that of those women who had an abortion, 60.2 percent remained on active duty as of January 1977. Similarly, 62.4 percent of those enlisted women who had given birth in naval medical facilities returned to active duty.

In conclusion, this report provides several comparisons of attrition and hospitalization rates as well as numbers of days lost from duty because of hospitalizations. Further research is currently being conducted to identify contributions that various causal factors and individual characteristics make as predictors of unfavorable attrition and illness rates. Results of this ongoing work, it is hoped, will serve as the basis for developing illness and injury prevention programs, better screening techniques, ways to keep various occupational groups healthy and on the job, and improved health care delivery that would appear to be less patronizing of women in the Navy.

Table 1
Percentage of Attrition for Enlisted Navy Men by
Occupation and Years of Enlistment as of January 1977

<u>Occupational Group</u>	<u>Year of Enlistment</u>							
	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>
	<u>% Separated</u>	<u>% Unfavorable^a</u>	<u>% Separated</u>	<u>% Unfavorable</u>	<u>% Separated</u>	<u>% Unfavorable</u>	<u>% Separated</u>	<u>% Unfavorable</u>
Deck (BM, QM, SM) ^b	74	10	40	13	16	13	16	13
Ordnance (GM, GMT, GMG)	76	9	34	10	11	10	8	8
Electronics (ET, ETN)	26	13	16	10	11	8	4	3
Radioman (RM)	71	15	25	17	16	14	8	7
Clerical (YN, PN, SK)	71	10	28	13	16	13	10	8
Engineering & Hull (MM, BT)	64	18	35	23	29	24	20	17
Construction (CU, EQ)	76	17	24	15	12	10	5	4
Aviation (AD, AM)	71	16	26	16	14	12	7	6
Medical (HM)	75	15	26	15	17	13	6	5
Nonrated (SN, AN, FN)	96	57	87	69	57	50	30	21
Total Percentages	82	37	52	38	39	33	23	17
Total Accessions	55,381		34,370		44,763		57,040	

^aUnfavorable separations include discharges for Unsuitability, Unfitness, Misconduct, Court-Martial, or not recommended for reenlistment.

^bIncludes selected occupations only.

Table 2
Percentage of Attrition for Enlisted Navy Women by
Occupation and Year of Enlistment as of January 1977

<u>Occupational Group</u>	<u>Year of Enlistment</u>							
	<u>1972</u>		<u>1973</u>		<u>1974</u>		<u>1975</u>	
	<u>% Separated</u>	<u>% Unfavorable^a</u>	<u>% Separated</u>	<u>% Unfavorable</u>	<u>% Separated</u>	<u>% Unfavorable</u>	<u>% Separated</u>	<u>% Unfavorable</u>
Non-Traditional (HT, GM, BU) ^b	61	11	31	9	19	7	16	8
Electronics (ET, DS, CTM)	61	8	25	6	20	8	4	1
Communications (RM, CTT, CTR)	73	15	42	12	22	7	11	5
Clerical (YN, CTA, AZ)	74	9	47	5	17	5	10	6
Service (SK, PC, MS)	73	15	41	5	17	5	13	7
Health Care (HM, DT)	74	16	41	9	17	6	9	5
Miscellaneous (JO, DP, MU)	72	8	30	4	16	4	9	5
Nonrated (SN, FN)	91	39	85	40	47	26	33	22
Nonrated Aviation (AN)	87	34	82	32	40	18	14	9
 Total Percentages	 76	 17	 50	 14	 27	 11	 20	 13
 Total Accessions	 1,952		 5,067		 6,611		 5,704	

^aUnfavorable separations include discharges for Unsuitability, Unfitness, Misconduct, Court-Martial, or not recommended for reenlistment.

^bIncludes three specialties as examples for each category where applicable.

Table 3
 Means, Standard Deviations, and Percentages of Enlisted Navy Men and Women
 Across Five Occupational Specialties for Selection and Performance Variables

<u>Variable</u>	<u>DP^a</u>		<u>MS</u>		<u>PN</u>		<u>RM</u>		<u>YN</u>	
	<u>Men</u>	<u>Women</u>	<u>Men</u>	<u>Women</u>	<u>Men</u>	<u>Women</u>	<u>Men</u>	<u>Women</u>	<u>Men</u>	<u>Women</u>
<u>Age (Mean Years)</u>	19.05	19.75	18.30	19.44	19.59	19.57	18.46	19.34	18.64	19.41
	(1.73) ^b	(2.28)	(1.54)	(2.04)	(2.45)	(2.59)	(1.73)	(1.57)	(1.75)	(1.97)
<u>Education (Mean Years)</u>	12.34	12.29	11.28	12.22	12.40	12.34	11.59	12.16	12.01	12.20
	(1.09)	(1.00)	(1.16)	(0.80)	(1.42)	(0.61)	(1.14)	(1.08)	(1.09)	(0.64)
<u>Expulsions/Suspensions^c</u>	0.23	0.15	0.62	0.11	0.35	0.00	0.62	0.29	0.39	0.10
	(0.56)	(0.48)	(0.82)	(0.39)	(0.68)	(0.00)	(0.82)	(0.62)	(0.70)	(0.35)
<u>Arrests^c</u>	0.16	0.02	0.24	0.03	0.22	0.12	0.26	0.09	0.15	0.03
	(0.44)	(0.14)	(0.55)	(0.16)	(0.52)	(0.33)	(0.56)	(0.38)	(0.44)	(0.17)
<u>"A" School Graduate (%)</u>	93.72	90.20	96.50	98.80	90.52	100.00	75.13	84.62	78.74	90.24
<u>Two-Year Effectiveness (%)</u>	93.47	97.06	72.45	91.57	86.27	100.00	77.10	87.18	82.94	96.34

^aDP = Data Processor, Men n = 398, Women n = 102; MS = Mess Management Specialist, Men n = 1,343, Women n = 83;

PN = Personnelman, Men n = 306, Women n = 34; RM = Radicman, Men n = 559, Women n = 39; YN = Yeoman, Men n = 381, Women n = 82. Total n = 3,327.

^bValues in parentheses are Standard Deviations.

^cMean values of response options: 0, 1, or 2 (2 or more).

Table 4
Hospital Admission Rates for Major Disease Categories by Calendar Year and Sex^a

<u>Disease Category</u>	1966		1967		1968		1969		1970		1971	
	Men	Women										
Infective and Parasitic	885	2535	1009	2236	829	2644	906	2190	923	3532	927	3496
Neoplasms	343	941	385	868	407	1171	388	909	147	925	149	879
Endocrine, Nutrition, Metabolic	134	384	156	289	152	397	159	445	151	113	159	549
Blood, Blood Forming Organs	40	154	38	251	38	189	38	148	37	170	37	128
Mental Disorders	977	3667	1028	4184	1068	4004	1140	3656	1143	3909	1276	3405
Nervous System, Sense Organs	387	557	399	675	386	718	394	427	400	623	404	622
Circulatory System	455	538	455	598	444	491	403	464	458	642	458	403
Respiratory System	2592	3706	2192	3894	2006	4439	2052	3897	1757	3022	1688	2727
Digestive System	1237	2573	1347	2622	1239	2947	1164	2802	1041	1737	1078	1977
Genitourinary System	609	3034	696	2545	683	2172	623	1800	650	2398	660	1867
Pregnancy-Related Conditions	--	1267	--	1003	--	1152	--	983	--	1435	--	1647
Skin and Subcutaneous Tissue	1113	998	1025	520	898	793	786	854	885	1246	853	1025
Musculoskeletal System	661	1306	720	1002	748	1171	864	1169	941	1530	1112	1757
Congenital Anomalies	108	346	145	308	171	434	184	315	217	472	240	439
Symptoms, Ill-Defined	671	2035	730	2410	770	2210	716	2375	633	2644	635	2105
Accidents, Poisonings	2154	2919	2398	2699	2290	2890	2232	3062	2309	3645	2145	2782
Special Conditions	337	730	312	636	356	472	289	538	263	208	391	513
	1972		1973		1974		1975		1976			
Infective and Parasitic	820	3586	705	3326	805	3048	803	2049	1066	1529		
Neoplasms	142	909	149	750	155	772	161	706	191	715		
Endocrine, Nutrition, Metabolic	125	303	121	258	96	121	76	127	89	198		
Blood, Flood Forming Organs	36	67	28	112	32	113	32	122	36	110		
Mental Disorders	1462	2761	1588	2710	1523	2980	1502	2604	1715	3109		
Nervous System, Sense Organs	339	522	304	549	325	408	306	353	323	428		
Circulatory System	416	354	377	538	374	431	364	405	382	360		
Respiratory System	2625	4175	1614	4614	1564	4274	1310	2164	1272	1899		
Digestive System	1095	1717	1011	1702	1049	1694	1043	1707	1092	1555		
Genitourinary System	691	2222	641	2318	635	2451	620	2141	563	2254		
Pregnancy-Related Conditions	--	2357	--	2957	--	4001	--	5527	--	6401		
Skin and Subcutaneous Tissue	976	774	816	829	732	1029	712	764	758	741		
Musculoskeletal System	777	1448	796	1523	896	1505	919	1111	968	1236		
Congenital Anomalies	148	337	110	213	155	325	143	307	140	256		
Symptoms, Ill-Defined	552	2121	484	1792	494	1876	490	1626	539	1560		
Accidents, Poisonings	1960	2391	1990	2497	2012	2367	2030	1956	2121	2155		
Special Conditions	270	690	285	1400	372	2095	308	1626	439	1685		

^aAdmission rates are number of episodes of illness per 100,000 per year.

Table 5

Hospitalization Rates by Major Disease Category and Selected Diagnoses,
Navy Occupational Group, Sex, and Enlisted Pay Grade (E-2) for 1973-1975^a

<u>Diagnosis</u>	<u>Occupational Group^b</u>					
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>Men</u>	<u>Women</u>
<u>Mental Disorders</u>						
Schizophrenia	114	0	322	186	141	80
Neuroses	100	598	345	931	92	241
Personality Disorders	454	1,017	953	1,366	433	562
Alcoholism	167	179	357	372	238	321
Drug-Related Disorders	414	120	369	434	278	80
Transient Situational Disturbance	147	479	500	1,552	94	482
<u>Pregnancy/Genitourinary Conditions</u>						
Abortions	--	4,428	--	3,414	--	3,454
Deliveries	--	1,316	--	558	--	804
Prenatal Care	--	239	--	310	--	402
Genitourinary Disorders	414	2,095	988	4,407	435	2,008
Symptoms: Abdominal/GI Tract	40	658	214	1,738	49	884
Accidents, Poisonings, Violence	1,402	1,616	3,763	4,780	1,952	2,490
All Fractures	414	299	679	496	600	482
Sprains, Strains, Dislocations	234	419	846	1,055	362	321
Concussions	147	120	560	248	179	482
Total Numbers of Hospitalizations (All Reasons)	988	348	1,759	893	3,231	281
Mean Numbers of Men and Women	4,992	557	2,799	537	14,173	415

All hospitalization rates are numbers of admissions per 100,000 per year.

^aGroup 1 = Traditional occupations for women, i.e., Personnelman, Yeoman; Group 2 = Hospital Corpsman specialty; Group 3 = Non-traditional occupations for women, i.e., Electrician's Mate, but excludes specialties with few women assigned; Group 4 = Non-rated apprenticeships, i.e., Seaman, Fireman.

Table 6

Hospitalization Rates by Major Disease Category and Selected Diagnoses,
Navy Occupational Group, Sex, and Enlisted Pay Grade (E-3) for 1973-1975^a

	Occupational Group ^b					
	1		2		3	
Diagnosis	Men	Women	Men	Women	Men	Women
Mental Disorders	1,313	1,897	3,115	4,663	1,332	2,222
Schizophrenia	128	158	351	243	131	47
Neuroses	120	514	305	1,457	95	236
Personality Disorders	303	474	734	1,020	328	473
Alcoholism	241	119	539	97	348	142
Drug-Related Disorders	237	158	367	146	194	47
Transient Situational Disturbance	146	356	476	1,069	136	898
Pregnancy/Genitourinary Conditions						
Abortions	--	3,360	--	3,643	--	2,979
Deliveries	--	2,293	--	1,943	--	1,182
Prenatal Care	--	395	--	972	--	615
Genitourinary Disorders	606	1,937	1,273	4,323	617	1,418
Symptoms: Abdominal/GI Tract						
Accidents, Poisonings, Violence	55	553	219	2,137	61	331
All Fractures	1,463	1,621	4,060	3,886	2,305	1,040
Sprains, Strains, Dislocations	423	237	835	340	718	230
Concussions	343	395	937	923	425	378
Total Numbers of Hospitalizations (All Reasons)	135	198	484	243	217	284
Mean Numbers of Men and Women	2,009	514	2,968	1,100	6,130	402
	9,136	843	4,269	686	21,345	705

^aHospitalization rates are numbers of admissions per 100,000 per year.

^bGroup 1 = Traditional occupations for women, i.e., Personnelman, Yeoman; Group 2 = Hospital Corpsman specialty; Group 3 = Non-traditional occupations for women, i.e., Electrician's Mate, but excludes specialties with few women assigned; Group 4 = Non-rated apprenticeships, i.e., Scamun, Firman.

Table 7

Hospitalization Rates by Major Disease Category and Selected Diagnoses,
Navy Occupational Group, Sex, and Enlisted Pay Grade (E-4) for 1973-1975^a

Occupational Group^b

<u>Diagnosis</u>	<u>Occupational Group</u>		
	<u>1</u> <u>Men</u>	<u>2</u> <u>Women</u>	<u>3</u> <u>Men</u>
Mental Disorders	939	1,328	2,025
Schizophrenia	87	75	161
Neuroses	85	301	349
Personality Disorders	187	401	272
Alcoholism	270	201	475
Drug-Related Disorders	103	50	126
Transient Situational Disturbance	107	150	419
 Pregnancy/Genitourinary Conditions			
Abortions	--	2,181	--
Deliveries	--	1,780	--
Prenatal Care	--	351	--
Genitourinary Disorders	649	1,679	977
 Symptoms: Abdominal/GI Tract			
Accidents, poisonings, violence	1,433	1,178	2,227
All Fractures	533	276	621
Sprains, Strains, Dislocations	304	301	600
Concussions	118	75	175
 Total Numbers of Hospitalizations (All Reasons)	3,396	615	2,303
Mean Number of Men and Women	16,442	1,330	4,775

^aHospitalization rates are numbers of admissions per 100,000 per year.

^bGroup 1 = Traditional occupations for women, i.e., Personnelman, Yeoman; Group 2 = Hospital Corpsman specialty: Group 3 Non-traditional occupations for women, i.e., Electrician's Mate, but excludes specialties with few women assigned.

Table 8

Hospitalization Rates by Major Disease Category and Selected Diagnoses,
Navy Occupational Group, Sex, and Enlisted Pay Grade (E-5-E-9) for 1973-1975^a

	Occupational Group ^b					
	1		2		3	
Diagnosis	Men	Women	Men	Women	Men	Women
Mental Disorders	838	707	1,759	2,214	936	1,034
Schizophrenia	43	0	59	260	29	80
Neuroses	80	265	230	521	92	318
Personality Disorders	46	0	450	260	56	80
Alcoholism	501	88	890	391	544	159
Drug-Related Disorders	11	0	35	0	16	0
Transient Situational Disturbance	92	265	321	521	114	318
Pregnancy/Genitourinary Conditions						
Abortions	--	796	--	781	--	875
Deliveries	--	973	--	1,432	--	1,034
Prenatal Care	--	133	--	521	--	318
Genitourinary Disorders	405	1,238	600	3,255	507	1,273
Symptoms: Abdominal/GI Tract						
Accidents, Poisonings, Violence	46	221	112	781	55	159
All Fractures	791	796	1,473	3,776	1,269	636
Sprains, Strains, Dislocations	270	265	380	260	435	159
Concussions	187	133	443	2,083	291	0
	54	44	129	260	88	159

^aHospitalization rates are numbers of admissions per 100,000 per year.

^bGroup 1 = Traditional occupations for women, i.e., Personnelman, Yeoman; Group 2 = Hospital Corpsman specialty;

Group 3 = Non-traditional occupations for women, i.e., Electrician's Mate, but excludes specialties with few women assigned.

<u>Diagnosis</u>	<u>Occupational Group^b</u>		
	<u>1</u> <u>Men</u>	<u>2</u> <u>Men</u>	<u>3</u> <u>Men</u>
	<u>Women</u>	<u>Women</u>	<u>Women</u>
Diseases of the Circulatory System			
Essential Benign Hypertension	516	309	768
Myocardial Infarction	108	88	1,302
Chronic Ischemic Heart Disease	36	0	130
Symptomatic Heart Disease	78	0	130
Total Numbers of Hospitalizations (All Reasons)	24	0	24
Mean Numbers of Men and Women	7,787	245	3,200
	41,702	754	9,550
			214
			26,159
			142

Table 9

Days Hospitalized by Various Diagnostic Conditions for
Enlisted Navy Men and Women during 1975 and 1976

<u>Diagnosis</u>	<u>1975</u>		<u>1976</u>	
	<u>Men</u>	<u>Women</u>	<u>Men</u>	<u>Women</u>
Mental Disorders	115,065	8,695	98,042	9,851
Alcohol Abuse	57,952	734	29,873	530
Drug-Related Conditions	3,760	80	2,327	441
Abortions (Spontaneous and Induced)	--	2,282	--	1,783
Deliveries	--	8,792	--	10,912
All Other Pregnancy-Related Conditions (including prenatal care)	—	1,961	--	1,809
All Illnesses (excluding those listed)	583,502	32,421	346,248	23,890
All Accidents, Poisonings, and Violence	245,698	4,189	128,871	5,089
Total Days Hospitalized	1,005,977	59,154	605,361	54,305
Numbers of Hospitalizations	48,582	4,635	51,385	5,062
Mean Numbers of Men and Women ^a	449,050	17,279	439,309	19,169

^aDerived from 12 monthly Strength Reports from BuPers.

Table 10
Reasons for Separations of Enlisted Navy Women Hospitalized for
Abortions or Deliveries for 1973 through 1975

<u>Reason for Separation</u>	<u>Abortions^a</u>		<u>Deliveries</u>	
	<u>f</u>	<u>% of Total</u>	<u>f</u>	<u>% of Total</u>
Medical Discharge	8	0.8	3	0.6
Unsuitability	44	4.5	8	1.6
Unfitness	2	0.2	1	0.2
Misconduct	1	0.1	2	0.4
Courts-Martial	1	0.1	0	0.0
Convenience of the Government (Pregnancy/Parenthood)	154	15.9	82	16.8
Other Discharges	134	13.8	71	14.5
Released from Active Duty	38	3.9	15	3.1
Retired	3	0.3	2	0.4
Death	2	0.2	0	0.0
Total Separations/Deaths	387	39.8	184	37.6

^awomen hospitalized for an abortion n = 970; women hospitalized for childbirth n = 489.

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM	
1. REPORT NUMBER 78-7	2. GOVT ACCESSION NO. <i>AD-A104 459</i>	3. RECIPIENT'S CATALOG NUMBER	
4. TITLE (and Subtitle) Utilization, Health, and Performance of Enlisted Navy Women		5. TYPE OF REPORT & PERIOD COVERED Interim	
7. AUTHOR(s) Anne Hoiberg		8. CONTRACT OR GRANT NUMBER(s)	
9. PERFORMING ORGANIZATION NAME AND ADDRESS Naval Health Research Center P.O. Box 85122 San Diego, CA 92138		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS ZF51.524.002-5020	
11. CONTROLLING OFFICE NAME AND ADDRESS Naval Medical Research and Development Command Bethesda, Maryland 20014		12. REPORT DATE February 1978	
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) Bureau of Medicine and Surgery Department of the Navy Washington, D. C. 20372		13. NUMBER OF PAGES 26	
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited.		15. SECURITY CLASS. (of this report) UNCLASSIFIED	
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)			
18. SUPPLEMENTARY NOTES In: HY Taylor (ed), Minutes of the 10th Training and Personnel Technology Conference. Washington, DC: Office of the Undersecretary of Defense, 1978.			
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Enlisted Navy Personnel Attitudes Attrition Performance Hospitalization rates			
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) The purpose of this study is to present the results of previous and ongoing research on the utilization, health, and performance of enlisted Navy women. Comparisons of attrition and hospitalization rates of enlisted men and women indicated that women have lower attrition percentages and higher hospitalization rates than men. The large male/female differences in hospitalization rates decreased when comparisons were made by occupation and pay grade. Of four occupational groups, Hospital Corpsmen had the highest hospitalization			

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE(When Data Entered)

rates for nearly all diagnoses. Specific diagnoses that accounted for the highest rates and the largest numbers of days hospitalized also were identified.

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE(When Data Entered)

